



The Cienega de Santa Clara.

YDP/Cienega Conflict: A Proposed Solution

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Six years ago, the Colorado River system was in surplus, with water users in Arizona, California, and Nevada diverting their full Lower Basin water entitlements and more. But by 2004, drought had reduced the system's reservoirs to 50 percent of capacity and shortages were looming on the

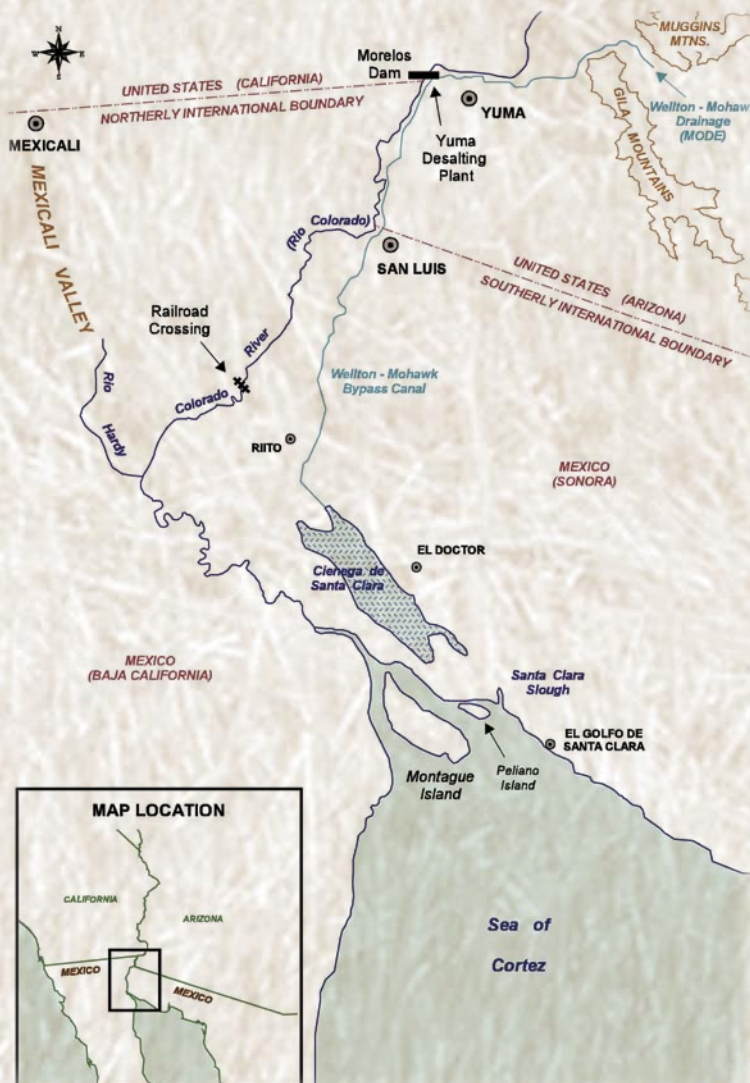
horizon. The threat of shortages on the Lower Colorado raised attention to the controversial issue of the bypass of saline water to Mexico through the Main Outlet Drain Extension (MODE).

The Bypass Controversy

This bypass flow controversy originated in a diplomatic crisis over salinity. By the 1960s increasing salinity in Colorado River flows from the United States was causing crop losses in Mexico. In 1973, the United States agreed to deliver better-quality water to Mexico. As a temporary measure, the MODE canal was constructed to divert saline agricultural drainage water (an average of 108,000 acre-feet annually) to a remote area in Mexico known as the Santa Clara Slough. The long-term solution was to be the construction of the Yuma Desalinization Plant (YDP) to desalt the bypass water. Once the YDP was operating, the slough would receive only the brine stream produced by the desalting process.

However, the YDP was not completed until 1993, at a time when its operation was deemed unnecessary due to high flows on the Colorado River. As a result, MODE bypass water has flowed to the slough for nearly 30 years, creating a 40,000 acre wetland, Cienega de Santa Clara, which now has an ecosystem that is dependent on the bypass flows to support numerous species of migratory birds and shorebirds, as well as endangered species like the desert pupfish and Yuma clapper rail. However, the bypass flows come at a cost to U.S. users, accelerating the depletion of drought-stricken reservoirs and increasing the risk of shortages to the Central Arizona Project (CAP). Pressures to minimize the MODE bypass via operation of the YDP have steadily increased.

This situation has left the U.S. Bureau of Reclamation (BOR) in a vise of conflicting concerns. CAP and others have demanded operation of the YDP to conserve precious water, while environmental organizations opposed it, citing concerns for the ecosystem health of the cienega. A BOR pilot program to replace the bypass flow via land fallowing was blocked by Arizona officials who felt that it amounted to giving away state



water to Mexico. Finally, although Congress authorized the construction and operation of the YDP, it has not provided funding for operation. The controversy seemed destined for litigation.

Seeking a Solution

In 2004, a small group of knowledgeable individuals on both sides of this issue—including water managers and environmental interests—decided to seek a creative solution. The working group included representatives from four environmental organizations: the Pacific Institute, The Nature Conservancy, Environmental Defense, and the Sonoran Institute; two representatives each from BOR, Arizona Department of Water Resources, and CAP; and a representative from the City of Yuma. A facilitator was enlisted to assist the group in its work.

The process followed was a large part of the group's eventual success. First, knowledgeable individuals were recruited. Second, the group was kept small, but nevertheless represented a balanced and broad range of interests. Third, commitments were made to confidentiality, honesty, and active participation in an intense schedule of meetings. Finally, the group began its effort by spending several months pooling information and developing a shared understanding of the problem. These measures ensured an honest and open process, while helping to develop a relationship of

trust between the participants.

A key realization that emerged from these discussions was that the problem had been framed narrowly as a choice of two options: continued provision of water for Cienega de Santa Clara to the detriment of U.S. users, or operation of the YDP at the expense of the cienega. With this perspective, there could be no compromise. Once the problem was viewed in terms of a broader range of issues facing the Colorado River, the value of a more flexible approach to managing the bypass water became evident and the problem easier to solve.

For example, the workgroup eventually recognized that bypass flows don't have to be replaced during high reservoir conditions. Instead, more aggressive steps could be taken to prevent shortages during low reservoir conditions. Similarly, it was recognized that a more flexible approach to the quality and quantity of water deliveries to the cienega—tied to monitoring and adaptive management—could actually enhance the resource and require less water.

A Proposal Emerges

The group ultimately identified its objectives as follows: 1) reduce or eliminate the risk of shortages to U.S. users as a result of the bypass flows; 2) ensure the maintenance/enhancement of environmental values in the cienega; 3) comply with binational water quality

requirements; and 4) preserve the status quo with respect to the allocation of permanent rights to Colorado River water. After ten months, the group completed a white paper that outlined an interrelated set of short- and long-term measures that would meet all four objectives. The basic elements of the plan are as follows:

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rapidly; and cultural and language differences among the participating agencies. However, with each trip the formality of the meeting room and treaty negotiations faded further away, and an atmosphere of informality, cooperation, and trust began to take hold in the field.

The key to building the trust needed for this study was respect. Stereotypes on both sides existed at first, but by the end of the study it was difficult to reconcile common stereotypes with the people we worked with day in and day out. I learned that the scientists in Mexico are highly educated and every bit as committed to improving the environment as anyone in the United States. I see now that we Americans can be viewed as aggressive and over-bearing, no matter how good our intentions are. Nothing is more detrimental to a binational effort or a faster way to ensure failure than to begin with the idea that the player with the most money should make the rules. Successful and continued binational collaborations require flexibility and the ability to understand and accommodate the traditions and social conventions of the other country. Both sides have a great deal to contribute to any research effort.

Other Binational Efforts

The lengthy process that began in 1991 opened the door to future water quality projects between the United States and Mexico. In 2003, the IBWC released the Binational Study Regarding Toxic Substances in the Lower Colorado and New River, patterned after the RGTSS. RGTSS also opened the door for other binational opportunities. TCEQ and CNA have subsequently hosted several binational water quality monitoring workshops on the border. Although the probability of another RGTSS is slim, new opportunities continue to present themselves.

Although most view the RGTSS as a scientific collaboration between two countries, those that participated saw it as comprising much more than data, methods, and reports. The effort didn't close a gap, it created a bridge to people who became trusted colleagues and friends.

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- Establish a contingency fund to be used during shortages to replace bypass flows. In shortage conditions, the fund would be used to prevent water supply disruptions through support of fallowing programs or direct mitigation.
- Provide proportional credit against the bypass for federal investments in efforts to salvage water currently lost to the system.
- Implement a pilot, basin-wide, consumptive-use reduction and forbearance program, based on voluntary, temporary land fallowing. If successful, continue the program to offset bypass flows and provide a shortage prevention mechanism in conjunction with the shortage contingency fund.
- Correct identified YDP design and construction deficiencies. Seek cost-sharing opportunities with municipal and industrial users to make operation cost-effective. Use YDP to desalt groundwater in the Yuma area that is saline but abundant, rather than MODE water, allowing the latter to continue to flow to the cienega. Route the brine stream where it cannot harm the cienega.
- Implement a monitoring system and advanced research program in the cienega, while adaptively

managing the quality and quantity of water deliveries by relying on a broader range of potential sources.

What Next?

The development of a solution set that satisfies both water managers and environmental interests is in itself a significant accomplishment. However, this is just the first step in resolving the bypass flow controversy. Education and information outreach, follow-through with federal, state, and local entities, and the public, the development of support from other Colorado River Basin states, initiation of a federal decision-making process, and binational discussions with Mexico will all be necessary.

The importance of immediate federal action cannot be underestimated. If the United States acts quickly to help implement these recommendations, a water use/environmental crisis will be averted when shortage occurs, and it can encourage the efforts of those interested in collaborative solutions to other tough Colorado River issues. The fact that a diverse group of stakeholders sought and found common solutions lends hope for future successful collaborative efforts.

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The full workgroup report and executive summary is available at www.cap-az.com.

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